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References

Estimation of HIV-1 prevalence in the population of Abidjan by adjustment of the prevalence observed in antenatal centres

In many settings, and particularly in developing countries, HIV prevalence estimates in the general population are based on the prevalence observed through sentinel surveillance in antenatal centres. Pregnant women are thus considered to be representative of all women of childbearing age. This estimation relies on the hypothesis that HIV-infected women have an equal probability of being pregnant and to visit antenatal centres than uninfected women. However, several studies have shown that HIV-1 infection could impair female fertility [1-3]. This means that HIV-1-infected women are expected to visit antenatal centres less often than other women, and thus that HIV-1 prevalence amongst the general population may be underestimated when based upon sentinel surveillance in antenatal centres. The prevalence assessed at the antenatal care centres should therefore be adjusted, taking into account the fertility differences between HIV-1 positive and HIV-negative groups.

Nicoll et al. [4] have presented a method of adjustment by estimating a summary relative inclusion ratio (RIR), based on the relative probability of including HIV-infected and uninfected women in a seroprevalence survey in prenatal centres. The authors estimated that this ratio was equivalent to the ratio of live birth rates in HIV-infected women to live birth rates in uninfected women. Once this ratio is obtained, the prevalence in the general population can be estimated as the prevalence observed among pregnant women divided by the RIR.

We applied this method of adjustment to the city of Abidjan, Côte d'Ivoire, since we had data on female fertility by HIV status for 5483 pregnant women who agreed to be tested for HIV between 1995 and 1997 in three antenatal care centres of the district of Yopougon, Abidjan, in the context of a clinical trial to reduce mother-to-child transmission of HIV [5]. This method was applied for HIV-1 infection only, since HIV-2 is not suspected to impair female fertility. For each group, an RIR was calculated from the live birth rates (Table 1), following the method of Nicoll et al. [4]. However, the method was simplified, because in a first approach, women consulting in antenatal centres are a homogeneous group in terms of reproductive behaviour. However, we stratified the analysis by age, since fertility in African countries is strongly age-dependent. Since we only had retrospective cumulated data on live births for women, we calculated cumulated birth rates for each age-group.

The overall RIR was significantly smaller than unity (Table 1), which confirms the trend of lower fertility in the HIV-1-infected group. However, when stratifying

Table 1. Live birth rates observed by HIV status and relative inclusion ratios (RIR) by age (calculated using the method of Nicoll et al. [4]) in antenatal centres, Abidjan, Côte d'Ivoire, 1995-1997.

<table>
<thead>
<tr>
<th>Age-group (years)</th>
<th>No. live births</th>
<th>No. live Women-years at risk</th>
<th>Live birth rate* (95% CI)</th>
<th>HIV-negative</th>
<th>HIV-positive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>at risk</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>267</td>
<td>2514</td>
<td>10.62 (9.39-11.85)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20-24</td>
<td>1540</td>
<td>10435</td>
<td>14.75 (14.06-15.45)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25-29</td>
<td>2482</td>
<td>13609</td>
<td>18.12 (17.46-18.78)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30-34</td>
<td>3057</td>
<td>13462</td>
<td>22.71 (21.99-23.43)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≥35</td>
<td>2068</td>
<td>8639</td>
<td>23.94 (23.02-24.86)</td>
<td>19.31 (18.95-19.67)</td>
<td>16.21 (15.30-17.11)</td>
</tr>
<tr>
<td>Total</td>
<td>9414</td>
<td>46750</td>
<td>19.31 (18.95-19.67)</td>
<td>16.21 (15.30-17.11)</td>
<td>0.84 (0.78-0.90)</td>
</tr>
</tbody>
</table>

*Cumulated rates. CI, Confidence interval.
Table 2. Estimated HIV-1 prevalence by age in the general female population based on the prevalence values observed in an antenatal centre using the method of adjustment of Nicoll et al. [4].

<table>
<thead>
<tr>
<th>Age-group (years)</th>
<th>Observed HIV-1 prevalence in antenatal centres [%]</th>
<th>Estimated HIV-1 prevalence (%) in general population*</th>
<th>% Weight of age-group in 15-45-year female urban population</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(n/total)</td>
<td>RIR</td>
<td></td>
</tr>
<tr>
<td>15-19</td>
<td>12.43 (106/853)</td>
<td>1.31</td>
<td>9.49</td>
</tr>
<tr>
<td>20-24</td>
<td>15.67 (300/1914)</td>
<td>0.91</td>
<td>17.22</td>
</tr>
<tr>
<td>25-29</td>
<td>11.85 (160/1350)</td>
<td>0.80</td>
<td>14.81</td>
</tr>
<tr>
<td>30-34</td>
<td>10.45 (97/928)</td>
<td>0.81</td>
<td>12.90</td>
</tr>
<tr>
<td>≥35</td>
<td>8.22 (36/438)</td>
<td>0.98</td>
<td>8.39</td>
</tr>
<tr>
<td>Total</td>
<td>12.75 (699/5483)</td>
<td>0.84</td>
<td>15.18</td>
</tr>
</tbody>
</table>

*Observed prevalence/relative inclusion ratio (RIR).

Interleukin-2 treatment of microglia has no effect on in vitro HIV infection

Interleukin (IL)-2 immunotherapy, in conjunction with highly active antiretroviral therapy (HAART), is viewed as a potential means of safely reconstituting the immune systems of AIDS patients [1,2]. Since stimulation of immune cells of HIV-infected individuals increases viral replication [1,3], IL-2 therapy must be...
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W. Zou, A. Foussat, S. Houhou, I. Durrant-Gasselin, A. Dulouet, L. Bouchet, P. Galanaud, Y. Le and D. Emilie for the ANRS 048 IL-2 Study Group

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517 Impaired fertility in HIV-1-infected pregnant women: a clinic-based survey in Abidjan, Côte d'Ivoire, 1997

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